CLAIMS

1. A method for controlling operations of a wireless communication system and a wireless tag identification system having at least partially overlapping coverage areas, comprising:

providing a wireless communication system having at least two wireless communication devices adapted to communicate by wireless signals;

providing a wireless tag identification system adapted to communicate by wireless signals with at least one tag associated with an asset; and

controlling the wireless signals produced by the wireless tag identification system to minimize interference of the wireless signals with wireless communication of the wireless communication system.

2. The method of claim 1, wherein the step of controlling the wireless signals comprises:

adjusting a timing at which wireless signals are produced by the wireless tag identification system.

3. The method of claim 1, wherein the step of controlling the wireless signals comprises:

setting a duty cycle used to control when wireless signals are permitted to be produced by the wireless tag identification system to minimize interference of the wireless signals with wireless communication of the wireless communication system.

4. The method of claim 1, wherein the step of providing a wireless communication system comprises:

providing a wireless local area network (WLAN).

5. The method of claim 1, wherein the step of providing a wireless tag identification system comprises:

providing a wireless tag identification system that includes at least one tag sensor that is physically separate from fixed communication devices in the wireless communication system.

6. The method of claim 1, wherein the step of providing a wireless tag identification system comprises:

providing a wireless tag identification system that uses a fixed communication device in the wireless communication system to communicate with the tag.

7. The method of claim 1, wherein the step of providing a wireless tag identification system comprises:

providing a wireless tag identification system that uses a fixed communication device in the wireless communication system to send a wireless signal to the tag, and that includes a tag sensor that receives a wireless signal from the tag.

8. The method of claim 1, wherein the step of controlling the wireless signals comprises:

using a user selectable power to determine the power of wireless signals sent by the wireless tag identification system or a user selectable duty cycle to determine when wireless signals are sent by the wireless tag identification system to the tag.

9. The method of claim 1, wherein the step of controlling the wireless signals comprises:

synchronizing duty cycles of at least two interrogators in the wireless tag identification system.

10. The method of claim 9, wherein the step of synchronizing duty cycles comprises:

synchronizing the duty cycles of the at least two interrogators so that the interrogators are permitted to transmit wireless signals during a common time period.

11. The method of claim 9, wherein the step of controlling the wireless signals further comprises:

establishing a first tag sensor as a master tag sensor and indicating to other tag sensors when the other tag sensors are permitted to transmit wireless signals.

12. The method of claim 11, further comprising:

receiving a schedule for a plurality of On/Off cycles to the other tag sensors.

13. The method of claim 11, further comprising:

sending a signal that indicates when the other tag sensors are permitted to transmit wireless signals at a time at least equal to a transmission delay time in advance of a next period during which the other tag sensors are permitted to transmit wireless signals.

14. The method of claim 1, wherein the step of controlling the wireless signals comprises:

controlling a length of time during which wireless signals are permitted to be produced by the wireless tag identification system based on received signals from the at least one tag.

15. The method of claim 1, wherein the step of controlling the wireless signals comprises:

controlling a duty cycle for at least one tag sensor in the wireless tag identification system based on received signals from the at least one tag.

16. The method of claim 1, wherein the step of controlling the wireless signals comprises:

adjusting a time period during which a wireless tag identification system is permitted to transmit wireless signals from a previous time period length to accommodate an anticipated number of wireless signals to be received from tags.

17. The method of claim 1, wherein the step of controlling the wireless signals comprises:

adjusting a duty cycle of at least one tag sensor in the wireless tag identification system from a first duty cycle setting to a second duty cycle setting based on previously received signals from tags to provide an adjusted percentage time during which the wireless communication system is permitted to communicate using wireless signals.

18. The method of claim 1, wherein the step of controlling the wireless signals comprises:

adjusting a duty cycle or a wireless signal power for at least one tag sensor in the wireless tag identification system as a function of a time of day or a day of the week.

19. The method of claim 1, wherein the step of controlling the wireless signals comprises:

adjusting a time period during which the wireless tag identification system is permitted to transmit wireless signals based on a received tag signal history.

20. The method of claim 1, wherein the step of controlling the wireless signals comprises:

increasing a percentage time that the wireless tag identification system is permitted to transmit wireless signals during lower communication activity periods for the wireless communication system; and

decreasing a percentage time that the wireless tag identification system is permitted to transmit wireless signals during higher communication activity periods for the wireless communication system.

21. The method of claim 1, wherein the step of controlling the wireless signals comprises:

adjusting the timing at which wireless signals are produced by the wireless tag identification system to approximately coincide with a time when a tag is in an active state and enabled to send a signal, where the tag switches between an active state and a sleep state.

22. The method of claim 21, wherein the at least one tag switches between active and sleep states at a variable timing.

23. The method of claim 21, further comprising:

determining that the tag has not been identified by the wireless tag identification system for one of a time period and a number of search cycles larger than a threshold; and

the step of adjusting the timing is performed in response to determining that the tag has not been identified.

24. The method of claim 1, wherein the step of controlling the wireless signals comprises:

controlling a timing at which wireless signals are produced from a tag sensor in the wireless tag identification system based on a location of the antenna.

25. The method of claim 24, wherein the step of controlling the wireless signals comprises:

controlling the timing for the tag sensor based on a proximity of the tag sensor to at least one fixed communication device in the wireless communication system.

26. The method of claim 25, wherein the step of controlling the wireless signals comprises:

controlling the timing for the tag sensor based on a proximity of the tag sensor to at least one fixed communication device in the wireless communication system and an amount of wireless communications traffic handled by the at least one fixed communication device.

27. The method of claim 24, wherein the step of controlling the wireless signals comprises:

setting a percentage time that tag sensors nearer a high traffic area of the wireless communication system are permitted to transmit wireless signals to be lower than for tag sensors farther from a high traffic area of the wireless communication system.

28. The method of claim 1, wherein the step of controlling the wireless signals comprises:

determining if wireless signals related to the wireless communications network are likely being transmitted; and

permitting wireless signals to be produced by the wireless tag identification system approximately while wireless signals related to the wireless communication system are not being transmitted.

29. The method of claim 28, wherein the step of determining if wireless signals related to the wireless communications network are likely being transmitted comprises:

detecting a change in energy in at least one communication channel.

30. The method of claim 28, wherein the step of determining if wireless signals related to the wireless communications network are likely being transmitted comprises:

adjusting a length of a time during which an absence of wireless signal energy is detected.

31. The method of claim 30, wherein the step of determining if wireless signals related to the wireless communications network are likely being transmitted comprises:

randomly adjusting the length of time during which the absence of wireless signal energy is detected.

32. The method of claim 1, wherein the step of controlling the wireless signals comprises:

determining if energy in a communication channel that is indicative of wireless signals related to the wireless communications network is absent for a period longer than a threshold; and

permitting wireless signals to be produced by the wireless tag identification system.

33. The method of claim 28, further comprising:

adjusting a process used to determine if the wireless signals are likely being transmitted so that the wireless tag identification system is not prevented from transmitting wireless signals for more than a threshold percentage of time.

34. The method of claim 28, further comprising:

adjusting a process used to determine if the wireless signals are likely being transmitted so that the wireless tag identification system is prevented from transmitting wireless signals for a target percentage of time.

35. The method of claim 28, wherein the step of determining if wireless signals related to the wireless communications network are likely being transmitted comprises:

detecting energy, that is indicative of wireless signals related to the wireless communications network, near a tag sensor that is part of the wireless tag identification system.

36. The method of claim 28, wherein the step of determining if wireless signals related to the wireless communications network are likely being transmitted comprises:

detecting energy, that is indicative of wireless signals related to the wireless communications network, near a high traffic area of the wireless communication system.

37. The method of claim 28, wherein the step of determining if wireless signals related to the wireless communications network are likely being transmitted comprises:

determining a plurality of statuses that are each indicative of the presence of wireless signals related to the wireless communications network ; and

using an average of the statuses to control the timing at which wireless signals are permitted to be produced by the wireless tag identification system.

38. The method of claim 37, wherein the step of determining a plurality of statuses comprises:

detecting energy that is indicative of wireless signals related to the wireless communications network; and

inferring the status of the wireless communications network for each energy detection occurrence.

39. The method of claim 38, wherein the step of determining the status comprises:

comparing a signal representative of the detected energy to one of a fixed threshold and a variable threshold.

40. The method of claim 28, wherein the step of determining if wireless signals related to the wireless communications network are likely being transmitted comprises:

detecting energy that is indicative of wireless signals related to the wireless communications network in a plurality of channels used by the wireless communication system.

41. The method of claim 28, wherein the step of determining if wireless signals related to the wireless communications network are likely being transmitted comprises:

detecting energy that is indicative of wireless signals related to the wireless communications network in a channel used by the wireless communication system that is not a channel used by the wireless tag identification system.

42. The method of claim 1, further comprising:

sending a signal between the wireless tag identification system and the wireless communication system that indicates a control of the timing at which wireless signals are permitted to be produced by the wireless tag identification system.

43. The method of claim 42, wherein the step of sending a signal comprises:

sending a signal from the wireless communication system to the wireless tag identification system that indicates when the wireless tag identification system is permitted to transmit wireless signals.

44. The method of claim 43, further comprising:

using the signal to control a duty cycle for at least one tag sensor of the wireless tag identification system.

45. The method of claim 42, wherein the step of sending a signal comprises:

sending a token between the wireless tag identification system and the wireless communication system, where a system holding the token controls use of at least one wireless communication channel.

46. The method of claim 42, further comprising:

providing a host system adapted to communicate with the wireless tag identification system and the wireless communication system; and

the step of sending a signal comprises sending a signal from the host system to at least one of the wireless tag identification system and the wireless communication system representative of whether the wireless tag identification system or the wireless communication system may use a wireless communication channel.

47. The method of claim 42, wherein the step of sending a signal comprises:

sending the signal via a physical medium.

48. The method of claim 42, wherein one of the wireless tag identification system and the wireless communication system is a master system, and the other of the wireless tag identification system and the wireless communication system is a slave

system, and wherein the master system controls which system may use one or more communication channels.

49. The method of claim 48, wherein the wireless communication system is the master system and controls when the wireless tag identification system is permitted to use at least one communications channel.

50. The method of claim 41, wherein the step of sending a signal comprises:

sending signals both from the wireless tag identification system to the wireless communication system and from the wireless communication system to the wireless tag identification system to control the timing at which wireless signals are permitted to be produced by the wireless tag identification system.

51. A method for identifying tags comprising:

providing at least one tag adapted to transmit a wireless signal;

providing a wireless tag identification system adapted to receive a wireless signal from the at least one tag and identify the tag;

using a first technique to determine the likelihood that the tag is within acceptable communication range; and

using a second technique to collect data from the tag if the tag is determined likely to be within an acceptable communication range.

52. The method of claim 51, wherein the step of using a first technique comprises:

adjusting a tag search procedure based on at least one signal received from tags.

53. The method of claim 51, wherein the step of using a first technique comprises:

measuring whether an energy of a received signal is not greater than a threshold.

54. The method of claim 51, wherein the step of using a first technique comprises:

aborting a full tag search procedure that includes a plurality of sequences if a correlated magnitude of a signal received in a first sequence is below a threshold.

55. The method of claim 54, wherein each sequence is a 127-chip sequence.

56. The method of claim 54, wherein the first sequence includes 31-chip sequences, and other sequences are 127-chip sequences.

57. The method of claim 54, wherein the first sequence includes a plurality of first chip sequences and the other sequences in the search procedure include a second chip sequence, where the first chip sequence is shorter than the second chip sequence.

58. The method of claim 51, wherein the step of using a first technique comprises:

using a subset of tag sensors in the wireless tag identification system to identify the presence of a tag; and

the step of using a second technique comprises:

using at least one tag sensor not in the subset to collect data from the tag.

59. The method of claim 51, wherein the step of using a first technique comprises:

using a first set of wireless signal frequency bands to identify the presence of a tag; and

the step of using a second technique comprises:

using a second set of wireless signal frequency bands to collect data from the tag.

60. The method of claim 51, wherein the step of using a first technique comprises:

using a frequency hopper radio to identify the presence of a tag.

61. The method of claim 51, wherein the step of using a first technique comprises:

using one type of signal used to search for tags; and

the step of using the second technique comprises:

using another type of signal to collect data from the tag.

62. The method of claim 61, wherein the step of using the second technique comprises:

estimating a location of the tag in relation to one or more tag sensors.

63. The method of claim 61, wherein the step of using the second technique comprises:

reading bits of data from the tag.

64. The method of claim 61, wherein the step of using one type of signal comprises:

using a signal in a narrow band; and

the step of using another type of signal comprises:

using a signal in a band that is wider than the narrow band.

65. The method of claim 61, wherein the step of using one type of signal comprises:

using a frequency hopping signal; and

the step of using another type of signal comprises:

using a direct sequence spread spectrum signal.

66. The method of claim 61, wherein the step of using one type of signal comprises:

using a direct sequence spread spectrum signal at a first chip rate; and

the step of using another type of signal comprises:

using a direct sequence spread spectrum signal at a second chip rate higher than the first chip rate.

67. The method of claim 61, wherein the step of using one type of signal comprises:

using a signal including a communications network packet; and

the step of using another type of signal comprises:

using a signal including a special purpose packet different from the network packet.

68. The method of claim 61, wherein the step of using one type of signal comprises:

using a sequence spread spectrum signal having a first length; and

the step of using another type of signal comprises:

using a sequence spread spectrum signal having a second length longer than the first length.

69. The method of claim 68, wherein the first length is one of 11, 15 and 31 chips and the second length is one of 31, 63 and 127 chips.

70. The method of claim 61, wherein the step of using one type of signal comprises:

using a single signal; and

the step of using another type of signal comprises:

using multiple signals.

71. The method of claim 61, wherein the step of using one type of signal comprises:

using a subset of tag sensors in the wireless tag identification system with the one type of signal to identify the presence of a tag; and

the step of using a second technique comprises:

selecting tag sensors to collect data from the tag depending on the tag that is identified.

72. The method of claim 51, wherein the step of using a first technique comprises:

determining if a signal received from a tag is above a threshold; and

the step of using second technique is performed if the signal is above the threshold.

73. The method of claim 51, wherein the step of using a first technique comprises:

using a signal having a first power level; and

the step of using the second technique comprises:

using a signal having a second power level different from the first power level.

74. A method for identifying assets comprising:

providing at least one tag adapted to transmit a wireless signal;

providing a wireless tag identification system adapted to receive a wireless signal from the at least one tag and determine a location for the tag; and

receiving a wireless signal from the tag including a tag datagram in which an error checking code portion of the tag datagram is transmitted at the start of the tag datagram.

75. A method for identifying assets comprising:

providing a plurality of tags adapted to transmit wireless signals including different length header portions; and

providing a wireless tag identification system adapted to receive a wireless signal from the tags and determine a location for the tags.

76. The method of claim 75, wherein the step of providing a plurality of tags comprises:

providing first and second tags adapted to transmit a wireless signal including a header portion, a first tag header portion of the first tag being longer than a second tag header portion of the second tag.

77. The method of claim 75, wherein the step of providing a plurality of tags comprises:

providing a tag adapted to transmit a wireless signal selectively including either a first header portion or a second header portion, a first tag header portion of the tag being longer than a second tag header portion of the tag; and

providing a wireless tag identification system adapted to receive a wireless signal from the at least one tag and determine an identity of the tag.

78. The method of claim 77, further comprising:

transmitting the wireless signal including the first header portion when the tag is in motion; and

transmitting the wireless signal including the second header portion when the tag is stationary.

79. The method of claim 75, wherein the step of providing a plurality of tags comprises:

providing tags adapted to transmit a wireless signal including a longest header portion, the longest header portion having a transmission time that is at least as long as a tag search cycle time for tag search procedures performed by the wireless tag identification system to identify the presence of tags.

80. The method of claim 79, wherein the tag search cycle time is a time measured from the start of a first tag search procedure to the start of a next tag search procedure.

81. The method of claim 80, wherein the longest header portion transmission time is approximately equal to the tag search cycle time.

82. The method of claim 76, further comprising:

operating the first tag in a detection mode in which the first tag detects whether received wireless signal energy is above a threshold, and in a transmit mode in which the

first tag performs a transmission process if the received wireless signal energy is above the threshold.

83. The method of claim 82, further comprising:

operating the tag to perform the transmission process for some proportion of the header even if the received wireless signal energy is below the threshold.

84. A method for communicating with communication devices in a wireless communication system and tags associated with assets in a wireless tag identification system, comprising:

sending and receiving wireless signals to and from communication devices in the wireless communication system;

receiving a second wireless signal sent from a tag in response to a first wireless signal, said first wireless signal being sent from at least one communication device in the wireless communication system, and said first wireless signal not being addressed to the tag; and

using the second wireless signal to estimate the location of an asset.

85. The method of claim 84, wherein the first wireless signal is sent from a fixed communication device that has a destination address of the fixed communication device.

86. The method of claim 84, wherein the first wireless signal is modified to be different from a standard WLAN signal.

87. The method of claim 86, wherein the first wireless signal is modified to increase a sequence spreading rate of the signal.

88. A method for determining a location for assets, comprising:

providing a plurality of assets;

producing a wireless communication signal involving a mobile device, the wireless communication signal representing communications audio, video or data information;

using a frequency shifting transponder in conjunction with the wireless communication signal to locate at least one of the assets.

89. The method of claim 88, wherein the wireless communication signal is an 802.11 compliant signal.

90. The method of claim 88, wherein the frequency shifting transponder shifts a frequency of the wireless communication signal from approximately 2.4GHz to 5.8 GHz.

91. The method of claim 88, wherein the wireless communication signal includes at least one of a low resolution packet that is compliant with a wireless communication standard and a high resolution packet that is not compliant with the wireless communication standard.

92. The method of claim 91, wherein the high resolution packet includes a header that is compliant with the wireless communication standard.

93. The method of claim 92, wherein the high resolution packet includes a compliant header portion and a non-compliant data portion.

94. The method of claim 91, wherein the wireless communication signal includes both a low resolution packet and a high resolution packet.

95. The method of claim 91, wherein a plurality of wireless communication signals are produced and the high resolution packets are more frequent or longer when wireless communication signals are less frequently produced.

96. The method of claim 91, wherein a plurality of wireless communication signals are produced and the high resolution packets are more frequent or longer when locating assets has a higher priority in comparison to wireless communication involving mobile devices.

97. A wireless tag identification system, comprising:

a plurality of tags each associated with an asset;

at least one tag sensor adapted to communicate by wireless signals with at least one tag, the at least one tag sensor having a coverage area within which the tag sensor can communicate with tags; and

means for controlling wireless signals produced by the at least one tag sensor to minimize interference of the wireless signals with wireless communication of a wireless communication system taking place within the coverage area of the at least one tag sensor.

98. The system of claim 97, wherein the means for controlling the wireless signals adjusts a timing at which wireless signals are produced by the wireless tag identification system.

99. The system of claim 97, wherein the means for controlling the wireless signals adjusts a power level of the wireless signals.

100. The system of claim 97, wherein the means for controlling the wireless signals sets a duty cycle used to control when wireless signals are permitted to be produced by the wireless tag identification system to minimize interference of the wireless signals with wireless communication of the wireless communication system.

101. The system of claim 97, wherein the wireless communication system comprises a wireless local area network (WLAN).

102. The system of claim 97, wherein the wireless tag identification system comprises at least one tag sensor that is physically separate from fixed communication devices in the wireless communication system.

103. The system of claim 97, wherein the wireless tag identification system is adapted to use a fixed communication device in the wireless communication system to communicate with the tag.

104. The system of claim 97, further comprising:

means for allowing a user to select a power of wireless signals sent by the wireless tag identification system or to select a duty cycle to determine when wireless signals are sent by the wireless tag identification system to the tag.

105. The system of claim 97, wherein the means for controlling the wireless signals synchronizes duty cycles of at least two tag sensors in the wireless tag identification system.

106. The system of claim 105, wherein a first tag sensor is a master tag sensor and other tag sensors are notified when the other tag sensors are permitted to transmit wireless signals.

107. The system of claim 106, wherein a schedule for a plurality of On/Off cycles is sent to the other tag sensors.

108. The system of claim 106, wherein a signal that indicates when the other tag sensors are permitted to transmit wireless signals is sent at a time at least equal to a transmission delay time in advance of a next period during which the other tag sensors are permitted to transmit wireless signals.

109. The system of claim 97, wherein the means for controlling controls a length of time during which wireless signals are permitted to be produced by the wireless tag identification system based on received signals from the at least one tag.

110. The system of claim 97, wherein the means for controlling controls a duty cycle for at least one tag sensor in the wireless tag identification system based on received signals from the at least one tag.

111. The system of claim 97, wherein the means for controlling adjusts a time period during which a wireless tag identification system is permitted to transmit wireless signals from a previous time period length to accommodate an anticipated number of wireless signals to be received from tags.

112. The system of claim 97, wherein the means for controlling adjusts a duty cycle of at least one tag sensor in the wireless tag identification system from a first duty cycle setting to a second duty cycle setting based on previously received signals from tags to provide an adjusted percentage time during which the wireless communication system is permitted to communicate using wireless signals.

113. The system of claim 97, wherein the means for controlling adjusts a duty cycle or a wireless signal power for at least one tag sensor in the wireless tag identification system as a function of a time of day or a day of the week.

114. The system of claim 97, wherein the means for controlling adjusts a time period during which the a tag sensor is permitted to transmit wireless signals based on a received tag signal history.

115. The system of claim 97, wherein the means for controlling increases a percentage time that a tag sensor is permitted to transmit wireless signals during lower communication activity periods for the wireless communication system; and

decreases a percentage time that the wireless tag identification system is permitted to transmit wireless signals during higher communication activity periods for the wireless communication system.

116. The system of claim 97, wherein the means for controlling adjusts the timing at which wireless signals are produced by a tag sensor to approximately coincide with a time when a tag is in an active state and enabled to send a signal, where the tag switches between an active state and a sleep state.

117. The system of claim 116, wherein the tag switches between active and sleep states at a variable timing.

118. The system of claim 116, wherein the means for controlling determines that the tag has not been identified by the wireless tag identification system for one of a time period and a number of search cycles larger than a threshold; and

adjusts the timing in response to determining that the tag has not been identified.

119. The system of claim 97, wherein the means for controlling controls a timing at which wireless signals are produced from a tag sensor in the wireless tag identification system based on a location of an antenna associated with the tag sensor.

120. The system of claim 119, wherein the means for controlling controls the timing for the tag sensor based on a proximity of a tag sensor antenna to at least one fixed communication device in the wireless communication system.

121. The system of claim 120, wherein the means for controlling controls the timing for the tag sensor based on a proximity of a tag sensor antenna to at least one fixed communication device in the wireless communication system and an amount of wireless communications traffic handled by the at least one fixed communication device.

122. The system of claim 119, wherein the means for controlling sets a percentage time that tag sensors nearer a high traffic area of the wireless communication system are permitted to transmit wireless signals to be lower than for tag sensors farther from a high traffic area of the wireless communication system.

123. The system of claim 97, wherein the means for controlling determines if wireless signals related to the wireless communications network are likely being transmitted; and

permits wireless signals to be produced by a tag sensor approximately while wireless signals related to the wireless communication system are not being transmitted.

124. The system of claim 123, wherein the means for controlling detects a change in energy in at least one communication channel.

125. The system of claim 123, wherein the means for controlling adjusts a length of a time during which an absence of wireless signal energy is detected.

126. The system of claim 125, wherein the means for controlling randomly adjusts the length of time during which the absence of wireless signal energy is detected.

127. The system of claim 97, wherein the means for controlling determines if energy in a communication channel that is indicative of wireless signals related to the wireless communications network is absent for a period longer than a threshold; and

permits wireless signals to be produced by a tag sensor.

128. The system of claim 123, wherein the means for controlling adjusts a process used to determine if the wireless signals are likely being transmitted so that the wireless tag identification system is not prevented from transmitting wireless signals for more than a threshold percentage of time.

129. The system of claim 123, wherein the means for controlling adjusts a process used to determine if the wireless signals are likely being transmitted so that the wireless tag identification system is prevented from transmitting wireless signals for a target percentage of time.

130. The system of claim 123, wherein the means for controlling detects energy, that is indicative of wireless signals related to the wireless communications network, near a tag sensor that is part of the wireless tag identification system.

131. The system of claim 123, wherein the means for controlling detects energy, that is indicative of wireless signals related to the wireless communications network, near a high traffic area of the wireless communication system.

132. The system of claim 123, wherein the means for controlling determines a plurality of statuses that are each indicative of the presence of wireless signals related to the wireless communications network ; and

uses an average of the statuses to control the timing at which wireless signals are permitted to be produced by the tag sensor.

133. The system of claim 132, wherein the means for controlling detects energy that is indicative of wireless signals related to the wireless communications network; and

infers the status of the wireless communications network for each energy detection occurrence.

134. The system of claim 133, wherein the means for controlling compares a signal representative of the detected energy to one of a fixed threshold and a variable threshold.

135. The system of claim 123, wherein the means for controlling detects energy that is indicative of wireless signals related to the wireless communications network in a plurality of channels used by the wireless communication system.

136. The system of claim 123, wherein the means for controlling detects energy that is indicative of wireless signals related to the wireless communications network in a channel used by the wireless communication system that is not a channel used by the wireless tag identification system.

137. The system of claim 97, further comprising:

a communication link that carries a signal between the wireless tag identification system and the wireless communication system that indicates a control of the timing at which wireless signals are permitted to be produced by the wireless tag identification system.

138. The system of claim 137, wherein the signal is sent from the wireless communication system to the wireless tag identification system that indicates when the wireless tag identification system is permitted to transmit wireless signals.

139. The system of claim 138, wherein the means for controlling uses the signal to control a duty cycle for at least one tag sensor of the wireless tag identification system.

140. The system of claim 137, wherein the signal includes a token sent between the wireless tag identification system and the wireless communication system, where a system holding the token controls use of at least one wireless communication channel.

141. The system of claim 137, further comprising:

a host system adapted to communicate with the wireless tag identification system and the wireless communication system, and adapted to send a signal to at least one of the wireless tag identification system and the wireless communication system representative of whether the wireless tag identification system or the wireless communication system may use a wireless communication channel.

142. The system of claim 137, wherein one of the wireless tag identification system and the wireless communication system is a master system, and the other of the wireless tag identification system and the wireless communication system is a slave system, and wherein the master system controls which system may use one or more communication channels.

143. The system of claim 142, wherein the wireless communication system is the master system and controls when the wireless tag identification system is permitted to use at least one communications channel.

144. The system of claim 97, wherein a clock in at least one tag sensor is operated at a different rate than at least one other tag sensor, resulting in a variation in a sampling offset of a signal received from at least one tag.

145. The system of claim 97, wherein an operating frequency of at least one tag sensor is adjusted periodically to provide frequency diversity from one signal received from a tag to another signal received from a tag.

146. A wireless tag identification system for identifying tags comprising:

at least one tag adapted to produce a wireless signal;

at least one tag sensor that receives a wireless signal from the at least one tag;

means for determining an identity of the tag based on the wireless signal received from the tag; and

means for controlling how wireless signals are generated by the tag sensor, the means for controlling using a first technique to determine the likelihood that the tag is within acceptable communication range, and using a second technique to collect data from the tag if the tag is determined likely to be within an acceptable communication range.

147. The system of claim 146, wherein the first technique comprises:

adjusting a tag search procedure based on at least one signal received from tags.

148. The system of claim 146, wherein the step of using a first technique comprises:

measuring whether an energy of a received signal is not greater than a threshold.

149. The system of claim 146, wherein the step of using a first technique comprises:

aborting a full tag search procedure that includes a plurality of sequences if a correlated magnitude of a signal received in a first sequence is below a threshold.

150. The system of claim 149, wherein each sequence is a 127-chip sequence.

151. The system of claim 149, wherein the first sequence includes 31-chip sequences, and other sequences are 127-chip sequences.

152. The system of claim 149, wherein the first sequence includes a plurality of first chip sequences and the other sequences in the search procedure include a second chip sequence, where the first chip sequence is shorter than the second chip sequence.

153. The system of claim 146, wherein the first technique comprises:

using a subset of tag sensors to identify the presence of a tag; and

the step of using a second technique comprises:

using at least one tag sensor not in the subset to collect data from the tag.

154. The system of claim 146, wherein the first technique comprises:

using a first set of wireless signal frequency bands to identify the presence of a tag; and

the step of using a second technique comprises:

using a second set of wireless signal frequency bands to collect data from the tag.

155. The system of claim 146, wherein the first technique comprises:

using a frequency hopper radio to identify the presence of a tag.

156. The system of claim 146, wherein the first technique comprises:

using a first type of signal used to search for tags; and

the step of using the second technique comprises:

using a second type of signal to collect data from the tag.

157. The system of claim 156, wherein the second technique comprises:

estimating a location of the tag in relation to one or more tag sensors.

158. The system of claim 156, wherein the second technique comprises:

reading bits of data from the tag.

159. The system of claim 156, wherein the first type of signal comprises a signal in a narrow band; and

the second type of signal comprises a signal in a band that is wider than the narrow band.

160. The system of claim 156, wherein the first type of signal comprises a frequency hopping signal; and

the second type of signal comprises a direct sequence spread spectrum signal.

161. The system of claim 156, wherein the first type of signal comprises a direct sequence spread spectrum signal at a first chip rate; and

the second type of signal comprises a direct sequence spread spectrum signal at a second chip rate higher than the first chip rate.

162. The system of claim 156, wherein the first type of signal comprises a signal including a communications network packet; and

the second type of signal comprises a signal including a special purpose packet different from the network packet.

163. The system of claim 156, wherein the first type of signal comprises a sequence spread spectrum signal having a first length; and

the second type of signal comprises a sequence spread spectrum signal having a second length longer than the first length.

164. The system of claim 163, wherein the first length is one of 11, 15 and 31 chips and the second length is one of 31, 63 and 127 chips.

165. The system of claim 156, wherein the first type of signal comprises a single signal; and

the second type of signal comprises multiple signals.

166. The system of claim 156, wherein the first technique comprises:

using a subset of tag sensors in the wireless tag identification system with a first type of signal to identify the presence of a tag; and

the second technique comprises:

selecting tag sensors to collect data from the tag depending on the tag that is identified.

167. The system of claim 146, wherein the first technique comprises:

determining if a signal received from a tag is above a threshold; and

the second technique is performed if the signal is above the threshold.

168. A system for identifying assets comprising:

at least one tag adapted to produce a wireless signal including a tag datagram in which an error checking code portion of the tag datagram is transmitted at the start of the tag datagram;

at least one tag sensor adapted to receive a wireless signal from the at least one tag; and

means for determining a location for the tag based on the received wireless signal.

169. A system for identifying assets comprising:

a plurality of tags adapted to produce wireless signals including different length header portions;

at least one tag sensor adapted to receive a wireless signal from the at least one tag; and

means for determining a location for the tag based on the received wireless signal.

170. The system of claim 169, wherein first and second tags are adapted to transmit a wireless signal including a header portion, a first tag header portion of the first tag being longer than a second tag header portion of the second tag.

171. The system of claim 169, wherein at least one tag is adapted to transmit a wireless signal selectively including either a first header portion or a second header portion, a first tag header portion of the tag being longer than a second tag header portion of the tag.

172. The system of claim 171, wherein at least one tag is adapted to transmit the wireless signal including the first header portion when the tag is in motion, and to transmit the wireless signal including the second header portion when the tag is stationary.

173. The system of claim 169, wherein a longest header portion transmitted by at least one of the tags has a transmission time that is at least as long as a tag search cycle time for tag search procedures performed to identify the presence of tags.

174. The system of claim 173, wherein the tag search cycle time is a time measured from the start of a first tag search procedure to the start of a next tag search procedure.

175. The system of claim 174, wherein the longest header portion transmission time is approximately equal to the tag search cycle time.

176. The system of claim 169, wherein at least one first tag is adapted to operate in a detection mode in which the first tag detects whether received wireless signal energy is above a threshold, and in a transmit mode in which the first tag performs a transmission process if the received wireless signal energy is above the threshold.

177. The system of claim 176, wherein the first tag is adapted to perform the transmission process for some proportion of the header even if the received wireless signal energy is below the threshold.

178. An integrated system for communicating with communication devices in a wireless communication system and tags associated with assets in a wireless tag identification system, comprising:

means for sending and receiving wireless signals to and from communication devices in the wireless communication system;

means for receiving a second wireless signal sent from a tag in response to a first wireless signal, said first wireless signal being sent from at least one communication device in the wireless communication system, and said first wireless signal not being addressed to the tag; and

means for using the second wireless signal to estimate the location of an asset.

179. The system of claim 178, wherein the first wireless signal is sent from a fixed communication device in the wireless communication system that has a destination address of the fixed communication device.

180. The system of claim 178, wherein the first wireless signal is modified to be different from a standard WLAN signal.

181. The system of claim 180, wherein the first wireless signal is modified to increase a sequence spreading rate of the signal.

182. A system for determining a location for assets, comprising:

means for producing a wireless communication signal in a wireless communication system including a mobile communication device, the wireless communication signal representing communications audio, video or data information; and

asset locating means, including at least one frequency shifting transponder, for using the wireless communication signal to locate at least one of the assets.

183. The system of claim 182, wherein the wireless communication signal is an 802.11 compliant signal.

184. The system of claim 182, wherein the frequency shifting transponder shifts a frequency of the wireless communication signal from approximately 2.4GHz to 5.8 GHz.

185. The system of claim 182, wherein the wireless communication signal includes at least one of a low resolution packet that is compliant with a wireless communication standard and a high resolution packet that is not compliant with the wireless communication standard.

186. The system of claim 185, wherein the high resolution packet includes a header that is compliant with the wireless communication standard.

187. The system of claim 186, wherein the high resolution packet includes a compliant header portion and a non-compliant data portion.

188. The system of claim 185, wherein the wireless communication signal includes both a low resolution packet and a high resolution packet.

189. The system of claim 185, wherein a plurality of wireless communication signals are produced and the high resolution packets are more frequent or longer when wireless communication signals are less frequently produced.

190. The system of claim 185, wherein a plurality of wireless communication signals are produced and the high resolution packets are more frequent or longer when locating assets has a higher priority in comparison to wireless communication involving mobile devices.